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VESICO-VAGINAL FISTULA—SPONTANEOUS RELIEF. "THE AMERICAN OPERATION."

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VESICO-VAGINAL fistula has been justly called a lamentable accident. Its consequences are truly deplorable; the remedy difficult, and, until recently, very uncertain. Spontaneous recovery, a result hardly to be hoped for, is a mere possibility. As an instance of such unexpected good fortune, the following case seems worthy of record.

In January, 1844, the patient, aged 33 years, was delivered of a first child, after a labor of five days without intermission. On the third day her medical attendant left her, because she would not allow the forceps to be used. After he left, she got no attendance until the last moment of her labor, when she had the assistance of a midwife. During the five days she was not conscious of having passed any urine. Before the removal of the placenta, the water was drawn, and the catheter was used at proper intervals afterwards. On the third day after delivery, however, she found that she had no control over the bladder. After this, all the urine came away involuntarily and without cessation.

Having been called at this stage of the case, I found a sloughy opening from the vagina into the bladder, nearly an inch above the neck of the latter, large enough to admit the tips of two fingers. The catheter passed readily from the bladder into the vagina. The nature of the case, thus clearly made out, was explained to the patient; and she was informed that, after her recovery from confinement, means for permanent relief might be tried with reasonable chances of success. From time to time thorough explorations were made; and the case on the whole was considered a promising one for a surgical operation.

This was in 1844, and I was led to take this view of the mat-

ter, because I had been either an observer or an assistant at most of the operations for this accident performed previously, or about that time, by Dr. George Hayward, Sen., of Boston. But the patient resolutely refused to submit to any operation, in spite of earnest and repeated persuasion, and at length declined all further interference; having, from the first, allowed examinations very reluctantly. All unusual interest in the case therefore subsided; and for a long time after, nothing was heard of the patient, except that she was in a wretched condition.

Seventeen years having passed, I accidentally, a few days ago, met with this patient, and obtained from her some particulars of her history subsequent to her misfortune.

She had never been pregnant since, though she says that she knows of no reason why she should not have had other children. For three years or thereabouts, after the accident, she was unable to retain the least accumulation of urine, the dribbling having been constant and unceasing. In a word, she suffered all the discomforts and loathsomeness ordinarily attendant upon such accidents. She afterwards began to experience some slight power of retention, and this continued to increase, very gradually, until she had almost or quite acquired complete control over her urine. For the last three or four years, and since her catamenia have ceased, she has been able to retain and pass her water, as she says, "as well as anybody." She goes to church and other public places without apprehension, though after several hours she sometimes feels uneasy and fears consequences. She has not, however, suffered from too long retention up to this time. She affirms that she is completely restored, and perfectly well.

On partial digital examination, which she very reluctantly permitted, there were noticeable deep corrugations and contraction about the place of the former opening; and the upper part of the septum appeared to overlap the under. No communication with the bladder could be discovered by the finger; but whether it was completely obliterated, or, if any, how large the opening might be, could not be ascertained with absolute certainty, as she repelled the introduction of the catheter—seizing the instrument and preventing further exploration. At any rate, the injury has been completely repaired, and the patient relieved of her miserable state and restored to a comfortable existence.

In looking up and reviewing a case like the foregoing, which terminated so fortunately, one is naturally led to reflect on the great difficulties formerly attendant on efforts to remedy such accidents, and to call to mind some of the circumstances of the earlier operations performed by Dr. Hayward, particularly those original and scientific devices of his, which have rendered subsequent operations so much more successful; and which, having been accepted by such men as Prof. Verneuil and M. Robert, of Hotel Dieu, have given to the method abroad the name of "The American Operation."

An account of some of these improvements is worth repeating—for their own intrinsic value, and more especially now as they do not seem to be fully appreciated or properly acknowledged by some, whose success, whatever it may be, should be attributed to the more or less complete adoption of these improvements; and moreover as, in certain localities, they appear to be in danger of being overlaid by accumulating heaps of pretended discoveries and inflated assumptions.

Bearing in mind that when the first case presented itself to Dr. Hayward, in 1839, there had not been a successful operation in this country, and very few anywhere; that little or no assistance in the details of such an operation could be obtained from any source; that troublesome and alarming symptoms had arisen from sutures carried through the walls of the bladder, as previously thought necessary; that danger and even death had occurred from hæmorrhage—bearing in mind these and other formidable obstacles on the one hand, and the confessedly slight chance of success on the other, we shall have a better conception of the great service Dr. Hayward rendered, in planning and executing, on strictly scientific principles, a *new*, *safe* and *successful* method of operating for the relief of this accident.

And first, by passing a large, smooth and inflexible staff through the urethra beyond the fissure towards the fundus of the bladder, and using this staff as a lever, the pubes being the fulcrum, he showed that the bladder could be brought forward until the fistulous opening came quite within reach and sight. This movement originated with Dr. Hayward. It can be effected without difficulty; and, even before the use of ether as an anæsthetic, caused no very considerable amount of inconvenience or pain. Now, of course, whenever ether is resorted to, the last and only objection is entirely obviated.

The parts having thus been rendered accessible, Dr. Hayward's next and chief improvement consisted in superficially but thoroughly paring the edges of the fistula without cutting deeply into the walls of the bladder, and more particularly in dissecting or splitting up the vaginal membrane around the opening for the distance of a few lines, in order to have broader surfaces to be placed in contact; thereby increasing the chances of adhesion, while the danger of hæmorrhage, the result of deeper incisions, was greatly diminished. In fact, the bleeding was in this way reduced to the merest trifle, and the loss of substance, always to be avoided, rendered so inconsiderable that it need not be taken into account.

A third and very great improvement, introduced by Dr. Hayward, was the passing of small sutures; and these through only a portion of the thickness of the pared parts—not through the walls of the bladder. Thus, inflammation of this organ, as experienced by previous operators, was completely averted.

In his first cases, Dr. Hayward removed the stitches a few days

after the operations; but having in one instance, at least, which I happened distinctly to witness, re-opened an already united wound by pressing too suddenly on the staff in his endeavor to get at the most distant suture, he allowed in some of his subsequent operations the threads to remain until spontaneously cast off. Left in this way, the threads caused no trouble whatever, usually coming away in from seven to ten days. In one instance one remained twenty-eight days without inconvenience or injurious effect—so that this course may be adopted whenever it may be difficult to reach or to remove the stitch.

As so much has been said, from time to time, since the publication* of Dr. Hayward's method and success—now on the varied contrivances for securing and retaining the sutures, again on their number and size, and still more on their material, till "lo! a new era dawns"! and we have "the great surgical achievement," "the imperishable discovery" of the silver suture (though unfortunately for our country's vaunted glory in the matter, this "result of a a Providential train of circumstances" occurred fifteen years after silver sutures had been in use in England, been advocated there on precisely the same grounds, and even been employed in a successful operation for vesico-vaginal fistula, as reported in vol. xxx. of the London *Lancet*); and as there is no little danger in all this clamor about clamps, buttons, shot, and other equally unimportant mechanical contrivances, that the true scientific principles, which should guide in these operations, may be overlooked or disregarded—it may be well to remark in a word, and it needs but a word, that, wherever union by the first intention is looked for, the edges of the wound must be kept in close contact; and that, if this be skilfully done, it is of far less consequence by what peculiar contrivance it is effected. If sutures are used, more depends upon their proper adjustment, and their having the exact amount of tightening requisite, than upon the material. A metallic suture, of whatsoever or whomsoever's make, if imperfectly secured or too tightly tied, will prove as ineffectual or will cut its way out as certainly as that made of silk or flax. A delicate thread, even of cotton, properly adjusted, will retain its place, cause as little irritation, and leave as small a scar, as we have often had occasion to notice in operations about the face, as the purest silver, the softest iron, or the most polished steel. Let each operator, then, use whichever suture, knot, or fastener he himself chooses or can, in a given case, best manage, just as he would select any particular form of scissors or knife for paring the opening; but let him not forget the principles on which he must depend for success. The former, though perhaps not the best, may answer if adroitly used, but a neglect of the latter will result in inevitable failure. And having, by such a course, been successful, let him not, in his report

* American Journal of the Medical Sciences, Philadelphia, July, 1839, vol. xxiv., p. 283. Boston Medical and Surgical Journal, April 16th, 1851, vol. xliv., p. 209.

of the case, as is too often done, wholly ignore the first demonstrator of these principles—an act of simple justice; while magnanimity would suggest an honorable mention.

The position of the patient during the operation is of some consequence, though it may occasionally be varied to suit the convenience, or even the whim, of the operator. Dr. Hayward adopted that of lithotomy, which has many advantages. The fistulous opening, naturally thrown forward by this position, can thus without difficulty be brought by the staff nearly or quite to the os externum, and the subsequent steps of the operation thereby greatly facilitated. In this way too, an assistant, on either side, can with one hand keep the leg in proper position, and with the other separate the labia with a suitable spatula, without being in the way of the operator, who stands in front of the patient. Besides, the patient is in the most comfortable posture for a prolonged operation, and can thus take ether when and as long as desirable.

The catheter for after use, contrived by Dr. Hayward, is, to say the least, quite as good as any of its imitations; while its advantages are the plate which enables it to be secured by a bandage, and the screw which allows the additional portion to be turned in any desired direction, or to be removed at pleasure.

Much more might be added, but enough has been said for the present purpose, which is, simply, a short exposition of the principal improvements, based on which, the operation for vesico-vaginal fistula is hereafter to become one of the successful operations of surgery. Having had the opportunity to be present and to assist in the earlier cases, I can bear testimony to the difficulties encountered, and to the original as well as successful means adopted to surmount them—a grateful testimony to the merited eminence of a faithful instructor and steadfast friend.

Roxbury, July, 1861.

REMOVAL OF OVER FIVE INCHES OF THE LOWER END OF THE FEMUR—REPRODUCTION OF THE BONE—SUBSEQUENT DISEASE ABOVE AND BELOW THE KNEE—AMPUTATION—RECOVERY.

By E. S. Cooper, A.M., M.D., Professor of Anatomy and Surgery in the University of the Pacific, San Francisco.

[Communicated for the Boston Medical and Surgical Journal.]

Case.—Master J. G., aged 16, was admitted into the Pacific Clinical Infirmary May, 1857, for long-standing enlargement of the lower end of the femur, which had increased and become so painful that finally the patient was hardly able to walk. It was in this condition that I first saw him. It was at once apparent that operative procedure would be necessary, but to what extent I was unable to determine prior to commencing it.

My plan was to make an incision through the periosteum so as to expose the bone fully, and afterwards to drill it in several places, take out a longitudinal section, or exsect an entire portion, as the case should demand. After opening the periosteum, which was found thickened to four or five times its natural condition, and was readily peeled from the bone, the latter was found so much softened and diseased as to require the exsection of a portion entire. The lower end was first removed to just above the condyles, when it was easy to perceive that a greater amount still was diseased. Three inches more of the shaft of the femur were then removed, which extended a very little above the point at which the bone was found diseased. The periosteum was much thickened over the entire diseased bone, though not affected sufficiently to require cutting away.

After removing the diseased bone described, a careful examination was made to ascertain if any other structures were involved in the disease. The articulating face of the tibia was found healthy, and there was no evidence of any portion of that bone being diseased, so the exsection was concluded.

Dressing.—A piece of lint wet with an evaporating lotion was placed in the wound, the limb extended, and a roller applied as tightly as the patient could conveniently bear, commencing at the toes and extending above the middle of the thigh. Care was taken to have the foot and leg drawn out for several weeks, to prevent shortening while reproduction of bone was taking place.

The patient suffered little inconvenience from the operation, and in two months was able to move about upon crutches. Everything went on favorably for over four months. Finally, however, in spite of efforts to prevent it, the burrowing of purulent matter occurred in the thigh, and caused a high grade of constitutional irritation, which continued with varying degrees of intensity for about eight months, when the symptoms became such as to forbid the idea of a recovery without the loss of the limb. Though the wound had been kept open, and a roller all the time tightly around the limb, purulent matter was found burrowing in the thigh from the knee up to the region of the hip-joint, and even above. The tibia had become greatly enlarged, from the articular extremity downwards to nearly the middle of the bone.

Amputation becoming necessary, it was performed twelve months after the first operation, in the upper third of the thigh, and the patient, after a somewhat tedious convalescence, recovered.

Examination of the Limb.—On opening the soft parts to the bone, the latter was found healthy above the knee-joint. The portion of bone taken away had been reproduced, and was well formed, notwithstanding the disease of the surrounding soft parts in which it had been developed. Well formed capsular, crucial and lateral ligaments were found, attaching the newly formed condyles of the femur to the upper end of the tibia. A tolerably

well-developed synovial membrane was also present, and in fact a joint formed throughout, though somewhat weak from want of exercise, yet perfect in every particular.

On cutting into the upper extremity of the tibia, its cancellated texture was found almost entirely absorbed, nothing remaining but the cortical portion of the bone, and this condition continued down to near the middle of the leg, although to an external view it presented a perfectly normal appearance, excepting an enlargement of the bone.

Remarks.—This is a case presenting two features of peculiar interest. One is the reproduction of healthy bone under all possible disadvantages, and the other is a persistent tendency to disease of bone which sometimes occurs, but which is often to be accounted for upon no known principles of pathology, and which is not only interesting but important to the operative surgeon. By the accumulation of cases of the kind, the fact will be established that certain cases will terminate in the loss of the limb in spite of his skill and efforts to save.

There are some constitutions in which the tendency to disease of bone is such that the slightest injury, such as a sprain or a bruise, will produce caries, hypertrophy or necrosis, and in such persons subsequent disease is very apt to follow operations for exsections, drillings, &c. &c.

This is a subject that has heretofore attracted but little attention among surgeons, but it merits the greatest consideration, and will ere long receive the attention it deserves. This specimen of reproduced bone, ligament, synovial membrane, &c., is preserved in the Pacific Clinical Infirmary of this City, where medical men, who may be visiting this coast, are respectfully invited to call whenever it may be convenient to themselves.

The reproduced condyles of the femur are smaller than natural, but otherwise well developed, and the specimen is so prepared as to show not only the newly-formed bone but also the ligaments.

ON METALLIC LOOP SUTURES IN AMPUTATIONS AND SIMILAR OPERATIONS.

By F. B. A. Lewis, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

We accept it, as granted, that the profession in general consider the metallic suture much less irritating than the common organic one, and many forms are at present in use; but having seen the difficulty with which the flaps, after amputations, are sometimes induced to unite, not only in times of hospital gangrene, but in abnormal constitutions, and in the heat of summer, I would propose a form of suture, which will not only tend to aid the union of such surfaces, under these circumstances, but be much more convenient.

It is composed of bits of silver wire, of different lengths, according to the thickness of the flaps. These are each twisted, or soldered together at the ends, so as to form loops. One of these is placed over the edges of the flaps, projecting to the usual distance for sutures, and then a pin is passed through both the ends of the loop and the two flaps. As many of these as necessary are placed along the cut surface, which retain it in close apposition, and adjust the edges with great nicety. Bits of cork, or other substance, can then be placed upon the projecting pin points, that they may be no inconvenience, by catching in the clothes, &c. These I believe to have an advantage over the other forms of silver suture, in being more easily applied, and over the common one:

1st. By being much less irritating, and therefore promoting union by first intention.

2d. By being much more easily applied, as double the number can be adjusted in the same length of time.

3d. They can be readily and quickly changed as to position, either nearer to the edge of the wound, or more distant from it; so that in case ulceration begins at any one point, or the stump is too full at a particular spot, the pin can easily be withdrawn, and the loop placed at a different part of the surface.

4th. They are more readily removed, when the period arrives for the whole number to be dispensed with; and

5th. They can be kept in any quantity ready for use, doing away with the trouble of threading needles; and in military practice the surgeon could have a box of these loops and pins at hand, which may be quite a convenience, and having been thoroughly cleansed, they may be used several times.

Perhaps this may be of no particular importance; still, however, not much improvement can be made, in surgical or medical science, unless all new ideas are communicated, be they of consequence or otherwise, and this may, upon more extensive trial, merit the attention of the profession.

RESEARCHES UPON THE NATURE AND TREATMENT OF ASTHMA.

By Dr. Duclos (of Tours), Physician of the Hospital St. Gatien.

[Translated from the Bulletin General de Thérapeutique Médicale et Chirurgicale de Paris, April, 1861, by Thomas Welsh, M.D.]

My illustrious master, Professor Trousseau, made use of the following expressions in his clinical lecture at Hotel Dieu.

"Doctor Duclos, of Tours, has proved that there is an herpetic diathesis in almost all asthmatics. I have almost always observed the same fact.

"Thus, when asthma assumes for some time the continued type of which I have spoken above, with an increased secretion from the bronchia, he thinks an eczematous eruption, similar to that we

see so often on the skin and mucous surfaces, is formed on the pulmonary mucous membrane. This theory of M. Duclos explains to a certain degree the fantastic form of this species of asthma. But it does not afford an explanation of the intermissions or remissions of the dyspnœa, which still have to be accounted for on the supposition that they are of nervous origin."

My object in the present article is to show how I have been led to this theory of asthma, and on what considerations and facts it is based. I wish to show that it alone explains the various forms of asthma, the intermittent and fugitive as well as the continued type. I wish, lastly, to mention what consequences I have drawn from it as regards therapeutics, and how treatment has confirmed the opinion I formed of the nature of the disease.

It is readily understood that I do not intend writing here a monograph on asthma. That would exceed the limits I have imposed on myself. I am compelled to limit myself to a simple description of my own observations.

It will with difficulty be imagined into what confusion the want of precision in medical language has thrown practitioners in speaking of asthma. One individual has habitual oppression. He gets out of breath at the least effort, at every walk a little brisk, especially at every effort to go up stairs. This dyspnœa is increased at times, diminished at others, but always persistent. There may or may not be observed a disturbance of the heart, and the patient is declared incurably affected with asthma. At other times the dyspnœa appears, especially some hours after eating. To percuss the transverse colon, and especially its junction with the descending colon, and there to recognize a considerable accumulation of gas, is not thought of. The dyspnœa alone attracts attention, and here again asthma is diagnosed. In other cases, a chronic inflammation has produced a thickening of the mucous membrane of the bronchia, with thick and abundant secretion. The respiration is habitually embarrassed, but the least motion increases the dyspnœa, from this very simple reason, that it increases the respiratory movements, and requires the introduction of a larger quantity of air into the lungs. Here, again, the prominent symptom is dyspnœa, and it receives the name of asthma.

In another individual, the respiration is accelerated under the influence of hysteria. A sibilant rale is produced, more frequently laryngeal than bronchial; it has all the apparent character of that which accompanies a true paroxysm of violent asthma; its duration is nearly the same, and again an asthma is diagnosed.

I could multiply, *ad infinitum*, these examples of designation of asthma, improperly applied to diseases which differ essentially from it. There is not a practitioner who has not seen others guilty of, or had to reproach himself with, this perversion of language. However, it cannot be too often repeated how abso-

lutely necessary it is to have a proper understanding of the designation of morbid species, in order not to reason upon unities of a different nature. Here, the confusion belongs frequently and exclusively to the symptoms of asthma, accompanied or not by appreciable anatomical lesions. This is a grave error; asthma is not merely a dyspnœa; it is not, like the latter, only a symptom; it is a morbid species, a complete disease, essential, characterized by more or less frequently-repeated attacks, and accompanied by a dyspnœa, whose chief characteristic is its periodicity.

Sauvages (in his nosology) understood this perfectly, when he wrote this definition: "*Asthma est morbus chronicus, cujus præcipuum symptoma est periodicè recurrens, spirandi difficultas. Dyspnœa est difficultas spirandi, unum symptoma et non morbus.*"

There was a necessity of my proving these capital facts, in order to have it understood upon what disease my pathological and therapeutical researches have been employed. It will then be well understood that I am speaking not of dyspnœa as a symptom of an affection, either of the lungs, heart, large vessels, large intestines, or of an hysterical character, but of a special, essential disease characterized by paroxysms of oppression, re-appearing at intervals more or less regular and frequent, and in the mean time the respiratory functions are performed with their usual regularity.

After having thus exactly defined what seems to me alone deserving the name of asthma, I have asked myself what could be the nature of it; and to arrive at that, I have read attentively what authors have written of it, and have minutely studied the cases which have been presented to my own observation.

Here is what I have seen.

Most authors, from the most ancient to the most modern, have confounded asthma with dyspnœa, and have thus committed the error of ranking under the same name a great number of very various diseases which can cause habitual or frequent oppression.

From time to time there are found some admirable descriptions, regarding asthma as an essential disease, special in the same way as pneumonia, typhoid fever and scarlatina are; but it is true, however, that with the exception of Hippocrates, Aretæus, Van Helmont, Willis, Cullen, Sauvages and Frank, whose opinions are mentioned in the excellent thesis of my former colleague and friend, M. Mercier Sainte Croix, most authors have committed the error I have mentioned.

In our day, MM. Rostan, Louis and Beau have in some sort denied to asthma the title of essential disease. They have made of it a simple symptom, dependent on an affection of the heart.

M. Trousseau has so successfully refuted these opinions in his medical clinic, that it is unnecessary to recur to them.

There remains for me, then, only one thing to notice, viz., the

opinion of this distinguished practitioner, who regards asthma as a pulmonary neurosis, either simple or grafted upon organic lesions, but becoming then a complication and not a symptom.

The more I advance in the practice of medicine, the more my disbelief in neuroses increases; so frequently the phrase, nervous accidents, is only an expression which conceals our ignorance! Besides, I do not see the proper conditions in it for the development of a neurosis. One individual is attacked with repeated sneezings; his nose runs; then in the evening a paroxysm of asthma occurs. Another goes into a mill, is exposed to the dust of wheat; he is taken with asthma, and will not be affected with it again until he is exposed again to the inhalation of the particles of flour. The smoke from wood, tobacco, powdered ipecac, certain vapors and odors, produce the same result.

In another, a blister or cautery which has been kept open for a long time is suddenly dried up, and an attack of asthma supervenes. In another, a cutaneous affection, an eczema or herpes, disappears, and a violent attack of asthma has taken its place. All this has certainly not the appearance of a neurosis. I have said so to myself every time I have seen it, and have repeated it, and still sought for its explanation. Then, I have been frequently struck with this fact, that the pure asthmatics, in general, those with truly essential asthmas, have been affected with cutaneous affections of variable degrees of intensity, and were born of parents affected under some form or other with the dartrous diathesis. The extreme frequency of this coincidence made a great impression on me; I made a note of it, and asked myself if asthma was not, after all, a simple bronchial pruritus.

This opinion was confirmed by observation, and on further reflection I soon found that with every variety of asthma there was a corresponding variety of herpetic eruption of the bronchia; that thus if we allow a simple urticaria to exist in the bronchia, a fugitive, and, if I may be allowed the expression, vaulting eruption, we shall have a rapid, fugitive form of asthma, returning and disappearing rapidly.

If we admit that erythema exists, we shall have a more persistent attack of asthma, much longer in its duration and attended with less irregularities, but presenting to a certain degree a remittent character. Lastly, if we admit the existence of eczema, we shall have asthma of a continued form, with considerable secretion of the bronchia, preserving, however, the character of intermissions and exacerbations; it will be intermittent, because, on the mucous surface, as on the skin, eczema produces successive crops of eruption and not a single one. Let us rapidly develope this manner of regarding asthma, and it will be easily seen that it alone interprets the irregularly intermittent progress of the disease, and accounts for the frequently so strange causes which appear to provoke it.

How is urticaria really produced?

Under what circumstances is it developed?

What progress does it follow?

A man, in the fulness of health, eats particular articles of diet, or else does not digest those to which he is accustomed, or else is exposed to the contact of certain substances, breathes certain odors, or is subjected to certain atmospheric influences; immediately, without any precursory phenomena or symptoms, his skin becomes the seat of a general or partial eruption; eruption of a peculiar, specific appearance, painful pruritus, frequently intolerable, which lasts for some hours or days; then these symptoms completely disappear, with or without the intervention of medicine; then, under the same influence, and sometimes without appreciable cause, the itching comes back again, with the same train of symptoms. The patient complains of extreme tension of the skin. "My skin is too short," said one of them to me in his picturesque language, "it seems to me that it is going to burst."

The eruptive phenomena disappear, and return suddenly in some cases. It often happens that the return of the eruption occurs periodically, at the same hour, with almost mathematical certainty and regularity, and devoid of any perceptible condition which can explain its perfect periodicity.

Lastly, it often happens that the urticaria is reduced to an insupportable itching, and that the eruption is so sparse and so perfectly isolated, that it can be hardly perceived. All that then remains is the itching, with the sensation of great tension of the skin. This is the most common form of urticaria.

Now, let us suppose all these symptoms transported to the bronchia, and we have all the conditions of asthma in its most usual forms.

1st. Sudden attack, the causes of which are the most frequently inexplicable.

2d. Itching and eruption on the bronchial surface, with considerable tension, and then respiratory anxiety, extreme dyspnœa, the calibre of the bronchia becoming too narrow to admit, at a given moment, the proper and necessary quantity of air.

3d. Complete cessation of the attack, after many hours and days, when the bronchial exanthema has disappeared, like the cutaneous.

4th. Complete return of the crisis, when a new exanthematous eruption takes place in the bronchia, and the intermittent, periodical return, as in the cutaneous urticaria, and sometimes even regularly intermittent and periodical.

It is impossible, I think, to see or imagine a more complete identity. Is this not a true attack of essential asthma, like that M. Trousseau has so admirably described in the following lines:—"An individual, in the plenitude of health, goes to bed as well as usual and sleeps quietly. In one or two hours after, he is sud-

denly awakened by an attack of the most painful oppression. He experiences a feeling of compression and stricture in the chest; a great obstruction. His respiration is difficult, and accompanied by a laryngo-tracheal wheezing.

"This dyspnœa and anxiety increase; he raises himself in bed, supporting himself upon his hands, his arms crossed behind, the face swollen, sometimes livid, reddish or violet, eyes projecting, skin covered with sweat; he is soon obliged to get out of bed, and if the room he occupies is not sufficiently high-studded, he runs to open the window to obtain, from without, the air he stands in need of. However, the attack lasts one or two hours or longer; then the storm is calmed. The next day he attends to his business, and leads his usual life.

"In the evening, and almost at the same hour, the paroxysm is repeated, absolutely similar to that of the night before, leaving the next day, to return the following night, and thus returning for three, four, five, ten, twenty, or even thirty days."

Let us forget, for an instant, that this scene is passing in the bronchia. Let us omit the symptoms peculiar to the seat of the disease.

Is this not truly a very complete description of an attack of urticaria? If, now, instead of urticaria, we have eczema, another form of eruption appears, and it corresponds to another form, and a very common one, of asthma. Let us see how eczema is actually developed and progresses, and let us take as a type the eczema of the face, frequently so improperly described under the name of erysipelas.

A man, very well otherwise, has either upon his ear or nose some small, insignificant, hardly perceptible crusts. He attaches so little importance to it, that he neglects even to attend to it. Then one day, either in consequence of indigestion, or local irritation, or the impression of cold, or even without any appreciable cause, a little red eruption appears on the face; it increases rapidly, extends over the whole face and even the scalp. A multitude of characteristic vesicles, peculiar to eczema, covers the parts attacked, but covers it by successive and not simultaneous crops, successive not in different points only, but even the same places; then the vesicles break, and an abundant serosity exudes; very thin, superficial crusts form; and if new eruptions of eczema do not take place, the disease is terminated. But the most frequently successive eruptions prolong the duration of it; and it is reproduced and cured for eight, ten, fifteen or twenty days. Thus, at first, an eruption very inflammatory, then the surface covered with little vesicles, then an abundant serous exduation, which shows that the disease is decreasing.

Lastly, eruptions which take place before the complete disappearance of the preceding one; so that there are many exacerbations, but no true intermissions, since there is never complete

apyrexia. That is eczema. Let us see to what form of asthma it corresponds. A patient is attacked with coryza, insupportable, frequent and almost incessant sneezing, without any cause to explain this cold in the head. The nose runs copiously; the eyes are swollen and filled with tears. Very soon the nasal mucous membrane becomes free, and a paroxysm of asthma, with all its usual characteristics, takes place; dyspnœa, wheezing and the strange rales of the bronchia.

[To be continued.]

Bibliographical Notices.

Lectures on the Diagnosis and Treatment of the principal forms of Paralysis of the Lower Extremities. By Brown-Sequard, M.D., F.R.S., Fellow of the Royal College of Physicians, Laureate of the Institute of France, &c. &c. Philadelphia: J. B. Lippincott & Co. 1861. Pp. 118.

These are four lectures, comprising the substance of a part of a course of lectures on various subjects, delivered a year or two since in Edinburgh, Glasgow and Dublin. They are upon the diagnosis, pathology and treatment of the two principal forms of paraplegia, the one arising from an excitation that has come to the spinal cord from a sensitive nerve, or other source of irritation in the viscera, skin, or mucous membrane, which he terms *reflex paraplegia*, no lesion being generally apparent in the cord in such cases: and the other, consequent upon either *congestion* or *inflammation of the spinal cord*.

Among other characteristics of reflex paraplegia, as distinguishing it from that dependent upon lesion of the cord, the author gives the following:—

"1. An outside excitation, starting from some sensitive nerve, exists before the reflex paralysis appears.

"2. The variations in intensity of the outside excitation are often followed by corresponding variations in the degree of the reflex paralysis.

"3. When the outside excitation ceases altogether, the reflex paralysis also sometimes ceases altogether, and in a short time.

"4. The various modes of treatment of paralysis are usually unsuccessful in cases of reflex paralysis, so long as the outside excitation exists.

"5. *Post-mortem* examinations, in cases of reflex paralysis, show that this affection does not depend upon any marked organic alteration."

The phenomena of reflex paraplegia he is inclined to attribute to contraction of the bloodvessels either in the *cord* itself, in the *motor nerves*, or in the *muscles* by which the function of nutrition of the part is directly interfered with. "A contraction of bloodvessels in the spinal cord, I have seen," he says, "(in the vessels of the pia mater) taking place under my eyes, when a tightened ligature was applied on the hilus of the kidney, irritating the renal nerves, or when a similar operation was performed on the bloodvessels and nerves of the suprarenal capsules." Again, it is said that "irritations starting from the urinary and other organs probably produce a paraplegia by a contraction rather of the bloodvessels of the spinal cord than of those of the motor nerves and muscles."

Several cases illustrative of the influence of outside irritation in the production of reflex paraplegia are given. Disease of the uterus, of the urethra, inflammation of the bladder, disease of the prostate, nephritis, enteritis, affections of the lungs and pleuræ, diphtheria, teething, irritation of the nerves of the skin, disease of the knee-joint, and neuralgia, all seem to play their part in causing this affection.

A distinguishing pathological feature between this form of paraplegia and that dependent upon congestion or myelitis, would seem to be in the diminished quantity of blood in the spinal cord; there being in the other form an augmentation of this fluid. Upon this important distinction is based the treatment indicated in these two forms of paraplegia. In the one, the object being, after getting rid of the irritating cause, to increase the amount of blood, and in the other to diminish it.

The remedies which Dr. Séquard has found most efficient in increasing the quantity of blood in the vessels of the spinal cord are *counter-irritants*, whose secondary effect is to augment the calibre of the vessels by relaxation, *position*, this being such as to promote the gravitation of the blood to the affected part, by raising the head and legs; *food*, which should be nutritious; and certain remedies that have the power of augmenting the vital properties of the spinal cord. Among the latter he mentions *strychnia*. Our author does not, in accordance with the generally received opinion, regard this remedy as a direct excitant to the cord, but as acting, first, to increase the amount of blood in the cord, and secondly, in some special manner upon its tissue, by which its vital properties are increased. Practically, therefore, it must be regarded as a spinal stimulant.

When this form of paraplegia arises from irritation in the prostate, or urethra, vagina or uterus, he recommends the cautious local use of *belladonna*, the object being to diminish the irritation as far as possible. The internal and constant use of this remedy would tend to increase the pathological condition of the cord by a still further contraction of its bloodvessels.

The remedies for paraplegia dependent upon congestion or inflammation of the spinal cord, are *belladonna*, which, as before stated, seems to have the property of diminishing the amount of blood at the vertebral canal, and hence the vital properties of the cord and spinal nerves. *Ergot*, our author regards also as having a specific action upon the bloodvessels of the spinal cord, causing their contraction more effectually and certainly than the last-named remedy. The following is a summary of the indications of and contra-indications to its use.

"1st.—Ergot must be employed in cases of paraplegia with irritation of motor, sensitive, or vasa-motor nerves—i. e., in congestion or inflammation of the spinal cord, or its meninges.

"2d.—Ergot must be avoided as an agent only able to increase the paralysis in cases of paraplegia without symptoms of irritation, such as cases of the reflex paraplegia, or of non-inflammatory softening of the spinal cord."

Iodide of potassium he recommends as the only known remedy that may be employed without danger in the various forms of paraplegia, being especially useful in cases of white softening of the spinal cord, due to the fatty degeneration of the bloodvessels of that organ. In cases of a syphilitic nature, its curative powers are often quite marked.

Stramonium, hyoscyamus, and *Indian hemp,* are also mentioned as possessing powers similar to those of belladonna, although in a less

degree. *Ammonia, sulphate of quinia* and *iron* he suggests may be used with benefit, when the symptoms of irritation are not violent, and the pulse is weak and slow.

In summing up the various means of treatment of paraplegia, it results,

"1. That in cases of paralysis of the lower limbs, with symptoms of irritation of the motor, sensitive and vasa-motor nerve-fibres of the spinal cord, or of the roots of its nerves, the proper treatment consists in the use of some of the following agents or means: belladonna, ergot, hyoscyamus, stramonium, Indian hemp, dry cupping, blisters, moxæ, issues, the hot douche, and also, sometimes, the iodide of potassium, ammonia, sulphate of quinia, iron or cod-liver oil.

2d.—That in cases of paraplegia without symptoms of irritation of the spinal cord, or of the roots of its nerves, the rational treatment consists in the use of strychnia, sulphur, the cold douche or shower bath, and also of the iodide of potassium, and frequently, ammonia, quinia and iron."

We would say, in conclusion, that this little treatise, on a most important and too often incurable class of diseases, will be found of much practical interest, and coming from one of the most profound physiologists of the day, must be regarded as an extremely valuable addition to medical literature.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JULY 11, 1861.

STIMULANTS IN MEDICAL PRACTICE.—The question of the expediency of the free use of stimulants in medical practice seems to be as far from being definitely settled as ever. The moral question, which a few years since so profoundly agitated our community, seems at present to have been set aside from sheer exhaustion, and to it has succeeded the medical and physiological one. Bourbon whiskey and its congeners, with other ingenious stimulants, put up in attractive bottles, with picturesque not to say artistic envelopes or labels, are actively at work on apothecaries' counters instead of occupying the more vulgar field of the dram-shop and bar-room, and prominent physicians do not hesitate to give good-natured certificates to aid the sale of these articles as remedies for disease. We should as soon think of squaring the circle or inventing perpetual motion as of coming to a categorical conclusion, pro or con, on this subject. But it is very evident that extreme views either way are liable to cause much harm, and when these views tend to harmonize with the natural or depraved appetites of poor human nature, the physician incurs a grave responsibility who promulgates or defends them. The same is true, if we merely regard their influence on men's physical organization. The boldness with which Dr. Todd, in his clinical lectures on certain acute diseases, published in London last year, has advocated what most physicians would call the excessive use of stimulants in the treatment of disease, is a case in point. Few physicians can read these lectures without being startled at the freedom with which he employs them; as, for instance, when he gives six drachms of brandy every hour to a girl 17 years old, sick with acute rheumatism; or to another female, suffering from pyæmic inflammation, a pint of brandy a day for a month at a time!

We have not space nor time, had we the inclination, in the midst of these July heats, to enter into a physiological discussion of the question whether stimulants are to be regarded in reality as food or tonics; but one thought has struck us, namely, this—that practitioners are too apt to advocate a *routine* use of them in the treatment of certain diseases, without reference to the special symptoms or condition of the individual patient. Such is the much vaunted use of these articles in the treatment of erysipelas and diphtheria, for instance. We do not deny the indications for their employment in many cases of these diseases; but it has occurred to us to see cases of both in which they were not welcome, and appeared to be decidedly injurious to the patient. We have always felt that the instinct of the sick is a very important aid to the other indications in determining the use of such remedies, and have not as yet seen any reason to distrust its significance. Our thoughts have been turned in this direction by reading, in the May number of the *Edinburgh Medical Journal*, an able and interesting article by Dr. W. T. Gairdner on the use of alcoholic stimulants in Hospital medical practice, with illustrations from the records of the Royal Infirmary of Edinburgh. Dr. Gairdner holds no extreme opinions with regard to the use of stimulants in treating disease, and is fully alive to all the questions, moral, physiological and economic, which should guide a judicious physician in administering them. His paper is a very interesting one, and perhaps at some future day we may print it in full. We copy his concluding remarks, together with a tabular statement of the average consumption of stimulants during five years in the Institution under his charge.

"The object of this paper will be served if it shall be the means of procuring more accurate records than hitherto of the actual expenditure of alcoholic stimulants in hospital practice. Considering the vast moral issues involved in this question, and considering also the important economic interest which the governors of our public charities have, in keeping within reasonable bounds the administration of stimulants, it is surely not too much to suggest that in every hospital in this country monthly returns should be made, exhibiting, as in the Edinburgh Royal Infirmary, the aggregate expenditure in each ward, and also a calculated average of the amount supplied to each individual patient. By such averages, physicians would be insensibly guided to the truth; and the results of various practice would, when carefully compared, supply data hitherto wanting for the settlement of a great many scientific questions connected with alcoholic stimulants."

Average Daily Consumption of Alcoholic Stimulants per Patient during five successive years, in the Royal Infirmary, Wards 4, 15 *and* 16.

	1856.	1857.	1858.	1859.	1860.
General Ward, Males—					
Wines (ounces) - -	0.158	0.465	0.710	0.928	0.739
Spirits (ounces) -	0.056	0.312	0.287	0.184	0.454
Malt liquors (pints) -	0.039	0.040	0.025	0.053	0.058
General Ward, Females—					
Wines (ounces) - -	0.446	0.534	0.799	1.498	1.200
Spirits (ounces) -	0.295	0.312	0.223	0.164	0.510
Malt liquors (pints) -	0.064	0.069	0.048	0.061	0.048
General Ward, Females—					
Wines (ounces) - -	0.715	1.256	1.734	1.725	1.140
Spirits (ounces) -	0.069	0.083	0.346	0.052	0.135
Malt liquors (pints) -	0.023	0.029	0.135	0.069	0.027

A New Anæsthetic—Kerosolene.—At the meeting of the Boston Society for Medical Improvement, held on Monday evening last, a liquid bearing the above name, and suspected of possessing anæsthetic properties, was presented by Dr. Bowditch, from Mr. Merrill, and by a vote the Hospital Surgeons, with Dr. Bacon, were requested to test its powers, and Dr. H. J. Bigelow was requested to make a subsequent report upon the subject to the Society. As some time must elapse before such a report can be made, Dr. Bigelow has, at our request, furnished us the following statement of his experience of its powers up to the present time.

Messrs. Editors,—In reply to your request for information concerning the "kerosolene," and although the evidence is incomplete, I see no impropriety in my furnishing you with such observations as I have been able to make since its introduction to the Medical Society last evening, by Mr. Merrill, Dr. Dickinson and Dr. Bowditch, as an untried agent of suspected anæsthetic properties, which had accidentally affected a man sent in to clean a cistern at the kerosene works, and which had been afterwards tried on flies and mice.

This fluid presents remarkable properties. It is tasteless as water, volatile and inflammable as ether, though burning with a dense white light; of a faint chloroform odor, which, as it evaporates, changes to that of coal tar, and then disappears absolutely and altogether; so that a handkerchief saturated with the fluid has, at the end of a few minutes, when dry, no odor at all, nor has the room or atmosphere where it has been used, any trace of its presence. Both ether and chloroform leave, in different degrees, a persistent, *fade* and stale aroma after evaporation, as is well known. They are also far less agreeable to inhale than this new agent, which has thus an obvious advantage over either of them.

A few whiffs were sufficient assurance of its efficacy as an anæsthetic, which, with its other qualities, as I ventured to remark, would place the kerosolene beyond any known anæsthetic, provided its use was not followed by headache, vertigo, or other unpleasant symptoms, and provided it should prove as free from danger as ether.

Subsequently, I inhaled the new vapor, which Dr. Hodges at my request administered. Complete insensibility supervened, lasting several minutes, with some diminution of the volume of the pulse. Its effect was wholly agreeable, leaving neither headache nor nausea, nor bad taste.

I have this morning administered it to three surgical patients. The first, a girl of 19, presenting some hysteric tendencies, having thrust some twenty needles in her leg, was wholly insensible during the extraction of four of those which remained. Yet there was more cough than I had expected from the wholly unirritating odor of the vapor, more muscular rigor than usual in favorable anæsthesia, and more intermittence of the pulse.

In a second patient, to whom it was given preparatory to an operation upon the face, insensibility was equally complete. But this woman did not take it kindly, and its complete effect was attended by so feeble and intermittent a pulse as to lead me to desist until she had recovered. A second attempt reproduced, with anæsthesia, the feeble and intermittent pulse, and I again desisted. Upon her recovery, I gave her common ether vapor, which she afterwards said was less agreeable, but which was followed by complete insensibility, the

pulse beating steadily and full, at 76. Though this patient perhaps succumbed more readily to a third anæsthesia, there seemed to be in the two first trials a certain degree of purple color and asphyxia, with its attendant spasm, which I have elsewhere described as an occasional and disagreeable symptom of attempted anæsthesia. To guard against this asphyxia, which might possibly have resulted from the folded towel, upon which I habitually administer ether, I tried in the next case an open sponge. The subject required a considerable incision for a mammary abscess, and was a patient of Dr. H. G. Clark, with whose assent I tried the kerosolene. In spite of the open sponge, the symptoms of asphyxia again appeared, suggesting to Dr. Clark before operating their resemblance to those resulting from charcoal gas. The color was livid, and the rigidity marked. In each of these cases, the quantity used was from one to two ounces.

In conclusion, it may be remarked of these three cases, that they are insufficient for satisfactory demonstration, and that their common and unfavorable symptoms may well have been but a coincidence; yet they suggest some caution in the use of the kerosolene vapor. It is probably more potent than that of ether, requires a free admixture of air, and may produce upon the system some impression or influence, other than that of the mere intoxication attendant upon the use of ether. In awaiting further evidence, it may be considered established that kerosolene is an anæsthetic of undoubted efficiency, and that it possesses certain remarkable and attractive properties peculiar to itself.

Boston, July 9th, 1861. H. J. Bigelow, M.D.

Count Cavour and his Physicians.—The enemies of Italy must erect a statue to Sangrado. But it is difficult for us to read the accounts transmitted to us of the disease and treatment of Count Cavour with patience. Surely the Papal and Austrian authorities will decree a mural crown to the three physicians who caused the illustrious Cavour to be bled thrice on the first day of his illness, twice on the second, and a sixth time on the third; and when finally he was at the last point of weakness, and beyond the possibility of venesection, placed his bloodless and enfeebled frame in a hot bath, and swathed him in mustard plasters. The combination of fever, repeated loss of blood, heat of weather, hot baths, and mustard poultices, was, indeed, more difficult to sustain than any burden of diplomatic anxiety; and all Europe feels with indignation, that a life which could ill be spared has been sacrificed to the antiquated prejudices of the Italian physicians, who still brandish so recklessly the ancient ensign of surgery. We must not be unjust to those who undertook the grave charge of this great life, in which the liberties of Italy also lived, and we would not aggravate the grief and the pain which the unhappy event of their treatment must inflict. We may set down much of the alleged vaccillation in determining the nature of the disease to the restless falsity of rumor, which is fertile in variations. The diagnosis seems to have been pretty clear from the first. The prior symptoms were febrile, and accompanied with cerebral congestion. The physicians ordered six bleedings, and at the end of these, on the second day, the symptoms were already announced in the bulletins to be "typhoid"—that is, weak and asthenic. The true origin of the fever was now clearly seen, for there were marked accesses and remission of fever at stated intervals. The accesses were preceded by shivering fits, and the attack was declared to be double tertian ague. The loss of blood produced delirium in the periods of accession; nevertheless the bleedings were continued up to the seventh time, the physicians apparently taking fresh courage at each natural remission of the fever; and, finally, on the last day, we read that a hot bath was ordered, to produce a weakening effect (*affaiblissement*), because they dared no longer bleed. The surface was now cold, and so mustard plasters were applied. Thus was this great minister tortured, and brought surely within

the clutches of death. Seneca choose to seek death by opening his veins in a warm bath, and there quietly allowing his life to ebb away. The substitution of seven successive bleedings *ad deliquium*, with the intercurrent application of mustard plasters and cabinet councils, to conclude with the hot bath and more mustard plasters, seems to us be a more cruel, but hardly a less sure device.—*London Lancet.*

OXYGEN AS AN ANTIDOTE TO ASPHYXIA FROM CHLOROFORM AND ETHER.—M. Ozanam has been experimenting with oxygen as an antidote to the asphyxia produced by anæsthetics, and finds that it acts much more promptly than atmospheric air to restore consciousness, producing its effects in less than half the time required by the latter. So long as there was the least sign of respiration, although the beatings of the heart had become imperceptible, consciousness was easily restored; in one instance, where both had ceased, it was powerless. These experiments confirm those of M. Duroy, made several years since. As a matter of precaution, then, it seems advisable for surgeons who employ chloroform, when undertaking important operations, to have at hand a quantity of oxygen gas ready for any emergency that may arise. Man resists the influence of chloroform better than the feeble animals which were experimented on; and so long as respiration continues, however slight or infrequent, oxygen will be likely to be efficient as a restorative.

DR. FREDERICK ROBIE, of Fordham, Me., has been appointed a Paymaster in the regular army of the United States, and will resign his situation as a member of the Governor's Council, and enter upon the duties of his office at once.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, July 6th, 1861.

DEATHS.

	Males.	*Females*	*Total*
Deaths during the week,	38	32	70
Average Mortality of the corresponding weeks of the ten years, 1851-1861,	37.9	34.2	72.1
Average corrected to increased population,	..	..	80.5
Deaths of persons above 90,	..	..	..

Mortality from Prevailing Diseases.

Phthisis.	Chol. Inf.	Croup.	Scar. Fev.	Pneumonia.	Variola.	Dysentery.	Typ. Fev.	Diphtheria.
15	6	0	2	6	0	1	1	0

METEOROLOGY.

From Observations taken at the Observatory of Harvard College.

Mean height of Barometer,	30.021	Highest point of Thermometer,	90°
Highest point of Barometer,	30.188	Lowest point of Thermometer,	51°
Lowest point of Barometer,	29.700	General direction of Wind,	S.W.
Mean Temperature,	70°.8	Am't of Rain (in inches)	0.00

COMMUNICATIONS RECEIVED.—Hospital Construction.

BOOKS AND PAMPHLETS RECEIVED.—A Treatise on the Practice of Medicine. By Edwin R Maxson, formerly Lecturer on the Institutes and Practice of Medicine in the Geneva Medical College. Philadelphia: Lindsay & Blakiston, 1861.—On the Time and Manner of the Closure of the Auriculo-Ventricular Valves. By George B. Halford, M.D., M.R.C.P., London, Lecturer on Anatomy at Grosvenor Place School of Medicine. London: John Churchill, New Burlington Street, 1861.

MARRIED,—In Hingham 4th inst., Dr. Louis E Partridge to Miss Rose E Mann, both of Natick.

DEATHS IN BOSTON for the week ending Saturday noon, July 6th, 70. Males, 38—Females, 32—Accidents, 2—apoplexy, 1—congestion of the brain, 1—disease of the brain, 3—bronchitis, 2—cancer, 1—cholera infantum, 6—consumption, 15—convulsions, 3—debility, 1—dropsy, 2—dysentery, 1—epilepsy, 1—scarlet fever, 2—typhoid fever, 1—infantile diseases, 2—intemperance, 2—disease of the knee, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 6—marasmus, 1—paralysis, 1—puerperal disease, 1—disease of the stomach, 1—suicide, 1—syphilis, 1—teething, 1—unknown, 7—whooping cough, 1.

Under 5 years of age, 22—between 5 and 20 years, 10—between 20 and 40 years, 20—between 40 and 60 years, 13—above 60 years, 5. Born in the United States, 50—Ireland, 14—other places, 6.